

Abstract of the Disclosure

APPARATUS AND METHOD FOR SELECTING INSTRUCTIONS FOR EXECUTION BASED ON BANK PREDICTION OF A MULTI-BANK CACHE

A processor having the capability to dispatch multiple parallel operations, including multiple load operations, accesses a cache which is divided into banks. Each bank supports a limited number of simultaneous read and write access operations. A bank prediction field is associated with each memory access operation. Memory access operations are selected for dispatch so that they are predicted to be non-conflicting. Preferably, the processor automatically maintains a bank predict value based on previous bank accesses, and a confirmation value indicating a degree of confidence in the bank prediction. The confirmation value is preferably an up-or-down counter which is incremented with each correct prediction and decremented with each incorrect prediction.